

amendments and remarks. The undersigned further authorizes the Commissioner to charge any deficiency, or credit any overpayment, to Deposit Account 07-1765, in the appropriate amount.

IN THE CLAIMS:

Please add new claims 88 and 89 as follow:

83,~~88~~ The patch bag according to claim 1, wherein the heat shrinkable patch has a thickness ranging from 2 to 8 mils.

84,~~89~~ The patch bag according to claim 6, wherein the heat shrinkable patch has a thickness ranging from 2 to 8 mils.--

REMARKS

I. Status of the Claims

Claims 1-12, 14-31, 33-39, 41-43 and 45-89 are pending in this application. Claims 88 and 89 have been added. Support for these claims can be found, for example, at page 20, lines 12-14 of the present specification. Accordingly, no new matter has been added by these amendments.

The indication that the allowability of claims 1-12, 14-31, 33-39, 41-43, and 45-56 was withdrawn, and the reinstatement of the rejection under 35 U.S.C. § 103(a) over Ferguson, U.S. Patent No. 4,770,731 ("FERGUSON"), in view of Elston, U.S. Patent No. 3,654,992 ("ELSTON"), and Chum et al., U.S. Patent No. 5,427,807 ("CHUM et al."), which was first set forth in the Office Action dated December, 13, 1996, is acknowledged.

II. Interview

Applicants wish to thank Examiner Tran for granting one of the Applicants, Blaine Childress, as well as Applicants' representatives, Rupert Hurley, Jr., and Mark Sweet, the courtesy of an interview conducted February 16, 2001. During this interview, Applicants' representatives stated that a second Declaration under 37 C.F.R. § 1.131 would be filed showing that Applicants had made a heat shrinkable film comprising long chain branched homogeneous ethylene/alpha-olefin copolymers prior to CHUM et al., thus addressing the Examiner's concerns set forth in the outstanding Office Action. Additionally, Applicants' representatives discussed with the Examiner the rejection under 35 U.S.C. § 103 and emphasized the differences between the present invention and the compositions according to the prior art. Finally, Applicants' representatives discussed the Declaration under 37 C.F.R. § 1.132 of Blaine Childress filed November 11, 1999, and explained that this declaration was submitted to demonstrate a lack of expectation of success, rather than unexpected results.

III. Rejection under 35 U.S.C. § 103(a)

A. Examiner's Statement of Rejection

Claims 1-12, 14-31, 33-39, 41-43 and 45-85 were rejected under 35 U.S.C. § 103(a) as being unpatentable over FERGUSON in view of ELSTON and CHUM et al. for the same reasons set forth in the Paragraph 1 of Paper No. 18 (Office Action dated August 19, 1997, which in turn refers to the Office Action dated December, 13, 1996). Applicants respectfully traverse this rejection for the reasons already of record, as well as those emphasized below.

In this rejection, the Examiner stated that FERGUSON discloses a heat-shrinkable bag having a heat-shrinkable patch adhered thereto. The Examiner acknowledged that FERGUSON does not disclose a patch or a bag comprising a long chain branched homogeneous ethylene alpha olefin copolymer. In fact, FERGUSON fails to disclose a heat-shrinkable patch comprising any heat-shrinkable film comprising homogeneous ethylene/alpha olefin copolymer, let alone a heat-shrinkable film having a free shrink, at 185°F, of from about 10 to 100 percent. To remedy this deficiency, the Examiner relied upon ELSTON and CHUM et al. for an alleged teaching that such a homogeneous ethylene/alpha olefin copolymer could be used to produce a heat-shrinkable patch according to the present invention.

The Examiner stated that ELSTON discloses linear homogeneous ethylene/alpha-olefin copolymers that provide extruded articles made therefrom with decreased haze, increased impact strength, increased resistance to delamination, and improved balance of properties in the machine and transverse directions when compared to articles formed from conventional heterogeneous copolymers. The Examiner also stated that CHUM et al discloses long chain branched homogeneous ethylene/alpha-olefin copolymers providing flow properties wherein the melt flow ratio, measured as I_{10}/I_2 , is independent of polydispersity.

The Examiner concluded that it would have been obvious for one skilled in the art to substitute a linear homogeneous ethylene/alpha-olefin copolymer of ELSTON for the LLDPE of FERGUSON, and to use such copolymer in the patch bag of FERGUSON to obtain the properties disclosed by ELSTON. Similarly, the Examiner also concluded that it would have been obvious for one skilled in the art to substitute a long chain branched homogeneous ethylene/alpha-olefin

copolymer of CHUM et al for the LLDPE of FERGUSON if the flow properties of CHUM et al were desirable.

B. Rule 131 Declaration

On page 2 of the Office Action dated October 23, 2000, the Examiner agreed the Declaration under 37 C.F.R. § 1.131 (“Rule 131 Declaration”) filed November 11, 1999, shows a reduction to practice of the claimed patch comprising a linear homogeneous ethylene/alpha-olefin copolymer. The Examiner asserted, however, that there is nothing in the Rule 131 Declaration about using long-chain branched homogeneous ethylene/alpha-olefin copolymers, which is the teaching the Examiner relied upon CHUM et al. to disclose. In response, Applicants submit that a *prima facie* case of obviousness has not been established for the numerous reasons set forth below, and that no additional Declarations under 37 C.F.R. § 1.131 are necessary to overcome the rejection.

Nevertheless, Applicants provide herewith a second Declaration under 37 C.F.R. § 1.131 (“second Rule 131 Declaration”) showing that the Declarant, Blaine Childress, prepared heat shrinkable films using long chain branched homogeneous ethylene/alpha-olefin copolymers prior to April 26, 1993. The second Rule 131 Declaration shows that the Declarant had made heat shrinkable films comprising long chain branched homogeneous ethylene/alpha-olefin copolymers prior to CHUM et al.

In the second Rule 131 Declaration, the Declarant attests to the fact that he received developmental samples of linear homogeneous ethylene/alpha-olefin copolymers from Exxon in

March, 1992, and samples of long chain branched homogeneous ethylene/alpha-olefin copolymers from Dow in April, 1992. Throughout the rest of 1992, the Declarant conducted and supervised research efforts using both copolymers in the design of impact resistant, heat shrinkable films, and these efforts included side-by-side comparisons of films made with the Exxon and the Dow materials. These efforts also led, in part, to the February 17, 1993, filing of U.S. Patent Application No. 08/018,657, which was directed to heat shrinkable films formed from long chain branched homogeneous ethylene/alpha-olefin copolymers.

Applicants respectfully submit that this evidence shows that Applicants had produced a heat shrinkable film comprising long chain branched homogeneous ethylene/alpha-olefin copolymers prior to CHUM et al, thereby addressing the Examiner's concerns.

C. No Prima Facie Case of Obviousness was Established

Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness. To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation; either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references when combined must teach or suggest all the claim limitations. *See* M.P.E.P. § 2143. Furthermore, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, not in Applicants'

disclosure. See *In re Vaeck*, 947 F.2d 488, 20 U.S.P.Q.2d 1438 (Fed. Cir. 1991). In the present case, Applicants respectfully submit that all three criteria have not been met.

1. No Motivation to Combine

First, the prior art references relied upon by the Examiner fail to provide the requisite motivation necessary to combine the references in the manner suggested by the Examiner. FERGUSON is directed to a heat-shrinkable bag having adhered thereto a *heat-shrinkable* patch comprising a heterogeneous copolymer. In contrast, ELSTON is directed to linear homogeneous ethylene/alpha-olefin copolymer which can be used in a variety of applications including film extrusion, blow molding, injection molding, wire coating, and paper coating. See ELSTON at col. 1, lines 40-42. Specific blown films and cast films formed from the copolymers of ELSTON are disclosed at col. 19, lines 3-54 of the reference. Notably, ELSTON fails to disclose a heat-shrinkable film comprising the homogeneous ethylene/alpha-olefin copolymers and, further, fails to disclose or even remotely suggest that such films could be used as heat shrinkable patches on heat shrinkable bags.

Because ELSTON is silent with respect to forming a heat-shrinkable film from the linear homogeneous ethylene/alpha-olefin copolymers disclosed therein, nothing in this reference would have suggested to one of ordinary skill in the art to form a heat-shrinkable film from the linear homogeneous copolymers of ELSTON. Moreover, the heat-shrinkable films of FERGUSON have an outer layer comprising a narrowly defined heterogeneous copolymer, *i.e.*, a linear low density polyethylene (LLDPE), which may be blended with ethylene vinyl acetate, and FERGUSON emphasizes the unique performance of this heterogeneous polymer in providing a satisfactory

patch. Notably, FERGUSON does not teach or suggest that any other type of polymer or polymer blend would provide a suitable or comparable patch. To the contrary, the implication of FERGUSON to one of ordinary skill in the art is that LLDPE is uniquely satisfactory, *i.e.*, FERGUSON would have provided no motivation to make the patch film according to FERGUSON with a different polymer. Thus, Applicants respectfully submit that nothing in the prior art would have provided motivation for the combination of FERGUSON and ELSTON suggested by the Examiner.

Turning to CHUM et al., Applicants respectfully submit that this reference fails to teach or suggest that the long chain branched homogeneous copolymers disclosed in this reference can be used to produce a patch film. In fact, this reference is silent with respect to any patch film, whereas FERGUSON is directed to a heterogeneous heat-shrinkable bag, which has a heat-shrinkable patch formed from a heterogeneous copolymer adhered thereto.

Because CHUM et al. is silent with respect to forming a patch film from the long chain branched homogeneous copolymers disclosed therein, nothing in CHUM et al. would have led one of ordinary skill in the art to form a patch film from the long chain branched homogeneous copolymers of CHUM et al. Moreover, as stated above, FERGUSON emphasizes the unique performance of LLDPE in providing a satisfactory patch, and nothing in FERGUSON would therefore have taught or suggested to one of ordinary skill in the art that any other type of polymer would have provided a suitable or comparable patch. Applicants therefore submit that nothing in the prior art would have provided motivation for the combination of FERGUSON and CHUM et al. suggested by the Examiner.

Lacking the motivation to make the combination set forth in the outstanding Office Action, Applicants respectfully submit that a *prima facie* case of obviousness has therefore not been established by the Examiner. Applicants request that the rejection under § 103(a) be withdrawn for this reason alone.

2. No Expectation of Success

Secondly, Applicants respectfully submit that one of ordinary skill in the art would not have had the requisite expectation of success to make the combination suggested by the Examiner. The heterogeneous copolymers of FERGUSON could have different properties when compared to the homogeneous copolymers of ELSTON and CHUM et al. Because different copolymers and different films each require different processing techniques, and because of FERGUSON's teaching of LLDPE as a uniquely suitable polyethylene for making heat shrinkable patches, one of ordinary skill in the art would not have had the expectation of success in substituting either of the polymers of ELSTON or CHUM et al. for the LLDPE in the heat shrinkable patch film according to the FERGUSON.

As fully discussed during the Interview on February 16, 2001, the Rule 132 Declaration provides further evidence of this lack of expectation of success. Specifically, the Rule 132 Declaration was submitted to show that one of ordinary skill in the art would have lacked the expectation of success needed to make the combination suggested by the Examiner, and was not submitted to show unexpected results. The statements in at least paragraphs 4, 5, and 7, discussed in detail below, show the uncertainties experienced by one of ordinary skill in the film art, and lead

to the conclusion that one of ordinary skill would not have had a reasonable expectation of success to make the combinations alleged by the Examiner.

As set forth in paragraph 4 of the Rule 132 Declaration, an attempt was made to prepare a heat-shrinkable patch film using a homogeneous polymer which had the same polymer architecture as the homogeneous polymers according to ELSTON by the method of FERGUSON. No quality heat-shrinkable patch film could be produced. As set forth in paragraph 5, another researcher experienced problems processing linear homogeneous polymers such as those disclosed in ELSTON, and concluded that these polymers were unsatisfactory for making heat-shrinkable patch films.

Moreover, paragraph 7 of the Rule 132 Declaration discloses that no heat-shrinkable patch film could be produced when a linear homogeneous polymer was substituted for the LLDPE in a preferred heat-shrinkable patch according to FERGUSON. This is particularly noteworthy since this substitution is the identical substitution suggested by the Examiner, and this failure to produce a heat-shrinkable patch film shows the substitution suggested by the Examiner does not work.

In contrast to these paragraphs showing uncertainty in the art, the remaining paragraphs of the Rule 132 Declaration set forth some of the initial experimentation that Applicants' conducted in an attempt to obtain a heat shrinkable patch film in accordance with the present invention. This early experimentation served as a precursor to the presently claimed invention, which is fully disclosed in the present application.

Applicants submit that, in at least paragraphs 4, 5 and 7, the Rule 132 Declaration highlights the uncertainty in the film art that exists when different polymers are used to produce different

films. The Rule 132 Declaration therefore further establishes that one of ordinary skill in the art would not have had a reasonable expectation of success to produce a heat-shrinkable patch film from the copolymers of ELSTON or CHUM et al. for use in the heat shrinkable patch bag according to FERGUSON. Thus, a *prima facie* case of obviousness has not been established for this additional reason.

3. All Limitations not Taught or Suggested

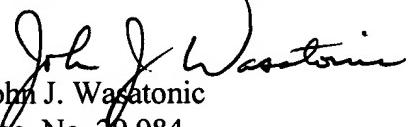
Finally, the prior art relied upon by the Examiner fails to teach or suggest all the limitations recited in the claims. For example, none of the prior art references teaches or suggests a heat-shrinkable patch film comprising homogeneous ethylene/alpha olefin copolymer, and having a free shrink, at 185°F, of from about 10 to 100 percent.

As emphasized above, FERGUSON fails to disclose a heat-shrinkable patch film comprising a homogeneous ethylene/alpha olefin copolymer, let alone a heat-shrinkable patch film having the claimed free shrink value. ELSTON and CHUM et al. are also silent with respect to any heat-shrinkable patch film having the claimed free shrink value, and therefore both would fail to teach or suggest the heat-shrinkable patch film specifically recited in the present claims. Because each and every limitation recited in the claims is not taught or suggested by the combined teachings of the prior art relied upon by the Examiner, a *prima facie* case of obviousness has not been established for this additional reason.

IV. Conclusion

In view of the foregoing, Applicants respectfully submit that the Examiner has failed to meet the three criteria necessary to establish a *prima facie* case of obviousness. Accordingly, Applicants respectfully request the rejection under 35 U.S.C. § 103(a) as being unpatentable over FERGUSON in view of ELSTON and CHUM et al. be withdrawn, and the timely allowance of pending claims 1-12, 14-31, 33-39, 41-43, and 45-89.

Respectfully Submitted,


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Cryovac, Inc.
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